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CERTAIN OLD AMERICAN MEDICAL WORKS*

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There was a medicine native to the Americas when the Spaniards came, the medical ideas, beliefs and superstitions of the Indians, but for the first medical work printed in America we must not look to what is now the United States but to Mexico. Garrison records that Fernandez de Oviedo y Valdes, a viceroy of Mexico, wrote a book published in 1526, a chapter of which describes the medicinal plants of the New World, entitled *Oviedo de la natural ystoria de las Indias,* but this was not published on this continent. It was printed at Toledo. The first genuinely American book, for it was printed in Mexico, is *Opera Medicinalia* . . . by Francisco Bravo and published in 1570. Very few details are known of the author's life. He was a citizen of Osuna in Spain, began to practise in Seville in 1553 and later went to Mexico; the date of his arrival in America probably was 1569 or 1570 for in the latter year we find him praying to be incorporated doctor of medicine in the University there; he had already received that degree from the University of Osuna. The medical school was founded a dozen years later, in 1582, although there had been a hospital from 1524.

The work is written in Latin and is divided into four books. The first is devoted to the disease tabardillo which was epidemic in New Spain at that time. There is a good

* Read before the Beaumont Medical Club of New Haven, 13 December, 1935, and illustrated by lantern slides. It is based upon a *Catalogue of Early and Later Medical Americana,* New York, the Academy of Medicine, 1927. Some of these books have been the subject of several talks, for example, before the Historical Section of this Academy, 31 October, 1927.

deal of question as to the nature of this particular sickness; some think it was a peculiar form of scarlet fever, others that we must look upon it as yellow fever, and still others as typhus fever. The second book deals with venesection in pleurisy and is said to be an exact reproduction of Nicolás Monardes' book which was published at Seville in 1539. It was a much debated question with the Greeks, with the Arabs, and even with Vesalius who wrote about it, whether patients should always be let blood from the arm of the same side regardless of whether the pleurisy was on that or on the opposite side. The doctrine of "critical days" in disease as given by Hippocrates and Galen is dealt with in the third book. We take little stock nowadays of the idea of "critical days" and if we were of a mind to bleed or to give a certain draught we should not stop to think what day of the month it was nor take thought of the position of the moon or stars. The fourth or last book is about sarsaparilla root and its medical properties, this plant being illustrated in the book.

Perhaps we should be interested in the medical and historical aspects only of this work but when I tell you that it is extremely rare and that the whereabouts of only three copies can now be traced your bibliographical instincts, actual or potential, may possibly be aroused. As you see on the screen the date 1570 does not appear at the foot of the title-page, and the date 1549 on the ornamental woodcut portico which surrounds the title caused much confusion to bibliographers. In 1862 this particular copy of the work was bought at Sotheby's sale of Count Libri's (1803-1869) books, for the Lenox Library, which is now part of the New York Public Library. At first it was thought that 1549 was a mistake of the printer as mention is made in the book of a man who did not hold office in Mexico until after that date. The copy of the work which belonged to Dr. Nicolás León of Mexico has the date 1570, printed at the foot of the title-page. If the New York copy is closely examined, it will be seen that this date has been cut away and the foot of the page deftly mended. I forgot to say that the last page of the book, bearing the colo-

phon with date and place of printing, is also missing from the New York copy. To those who know the story of the "faking" of books the facts can be explained. Count Libri was a famous mathematician and a learned book-lover but he was detected in more than one instance of cheating and stealing books and manuscripts. Book robbers may turn up even in the most polite circles: the greatest thief of the property of a very well-known library was a member of the board—and the librarian knew it all the time. If we are right in our suspicions, then by removing all traces of the real date, 1570, Libri sought to make others think the book was printed in 1549. Time has revealed the León copy with the real date and it has been shown that the ornamental portico was previously used for the *Dialogos* of Cervantes Salazar printed in 1549. And, not least important of all, Harrisse, the great bibliographer, found in Spain the missing clipping from the page which bore the date 1570 and in 1872 had it in his possession.

The finding of this Mexican work suggested looking further south, and when we were arranging a display of "Early and Later Medical Americana" at the New York Academy of Medicine, we looked up to see what was the title of the first medical book published in South America. The University of Lima was founded in 1553 and the medical school in 1638. Before the latter date, however, the book by Francisco Figueroa entitled *Dos tratos, uno de las calidades y efectos de la aloja, y otro de una especie de garrotillo ó esquinancia mortal,* Lima, 1616, had appeared. Nothing is known of the author and we can only imagine the contents of the book except for what we can learn from the title, as no copy can be discovered. Dr. José Toribio Medina, the great bibliographer, has never set eyes on the book but has seen it referred to by title. The title being interpreted, means two treatises, one of the nature and effects of aloja which is a drink made of honey, spices, and water, none other than the old English mead or metheglin. The other treatise is upon garrotillo (which is Spanish for quinsy) or fatal inflammation of the throat. In those days diphtheria, tonsillitis, quinsy, the sore throat of scarlet

fever and other affections were not distinguished and it is an interesting fact that some of the earliest medical writings of North America are on sore throat also. After all it was quite natural, for that affection, like the poor, we always have with us.

We now come to the first medical book published in what is now the United States and you shall see that it appeared more than one hundred years after the Mexican one. It is not a book in the ordinary sense of the term for it is a folio broadside in two columns printed on one side of the sheet only. This is a photograph of the unique example which is preserved in the Massachusetts Historical Society, entitled *A Brief Rule to Guide the Common-People of New-England how to order themselves and theirs in the Small Pocks, or Measels* by Thomas Thacher (1620-1678) and was published at Boston in 1677. The author was born in England in 1620 and, refusing to enter a university there, emigrated to America as a youth, soon after being apprenticed to Dr. Charles Chauncey (1589-1671), an M.D. of Cambridge, England, pastor of the church in Scituate, and later the second president of Harvard College. Thacher was a good scholar and was ordained a minister in 1641 and became pastor of the Old South Church. Like his preceptor and other Puritans in New England, Thacher was both doctor and minister. He had this broadside printed at a very opportune moment as between 1676 and 1678 smallpox prevailed at Boston. It is said that he was thought at the time to be one of the best doctors there but at the date of the broadside he tells the "Candid Reader," as he puts it, that it has been written not for the "Learned Physitian" but for the public and adds: "I am, though no Physitian, yet a well wisher to the sick." I do not know whether he was the first to point it out or not, but Dr. H. E. Handerson (1837-1918), of Cleveland, showed in 1899 (*Janus*, 1899, iv, 543) that Thacher's publication is merely a full translation of Sydenham's medical observations upon smallpox. The current views on the why and wherefore of the rash, directions for changes in diet and

medication with alterations in the type or prominence of the pustules, etc., are given. Thacher died in 1678 of a fever contracted from one of his patients. It is true that no medical work was printed in the Colonies before this one, but we are told of the plants and animals, and we get an amusing and, at the same time an instructive, picture of the ordinary remedies in use in *New-Englands Rarities*: . . . *Together with the Physical and Chyrurgical Remedies wherewith the Natives constantly use to Cure their Distempers, Wounds, and Sores . . . By John Josselyn, Gent,* London, 1672. Josselyn (*fl.* 1675) came twice to America from England to visit his brother in Maine, once for a year in 1638 and again in 1663 when he remained for eight years and a half. I had hoped to find that an early American edition had appeared before 1677, but alas there was none until that from Boston in 1865. "Pompions" is the old word Josselyn uses for pumpkins and he gives directions for the preparation of what he calls "The ancient New-England standing Dish":—how they should be cut into dice and stewed all day, adding "Vinegar (with some spice as ginger, etc.) which makes it tart like an Apple, and so serve it up to be eaten with Fish or Flesh . . ."

The first purely medical Canadian publication I have been able to trace is entitled *Direction pour la Guerison du Mal de la Baie St. Paul* which was published "chez Guillaume Brown," Quebec, in 1785. At first the copy in the Library of the Archives of the Province of Quebec seemed to be a unique one, but I saw another one a few years ago at the Sulpician Library, Montreal at the time of a meeting of the Medical Library Association. No author's name is printed in the book but the Quebec copy is endorsed in writing, "par le Dr. Badelard." La Baie St. Paul is on the north shore of the St. Lawrence below Quebec about twenty miles or so above "Mal Baie" or what is now called Murray Bay. M. Badilard (or Badelard), according to Mr. Justice William Renwick Riddell (*Urologic and Cutaneous Review,* 1923, xxvii, 145-150) was a surgeon major in the French service and in 1777 was appointed hospital, or surgeon's, mate to the garrison of Quebec and several times

visited Baie St. Paul. The disease began about 1770 and spread over a considerable portion of the country. It was said to have originated with a detachment of Scottish soldiers and the Canadians called it "le mal anglais"; indeed it passed under many different names. Swediaur (see the translation of his work into English, *A Complete Treatise on the Symptoms, Effects, Nature and Treatment of Syphilis,* Phila., 1815, chap. xxv.) has an account of it. The disease was cured by mercury and apparently was syphilis flourishing on fresh soil and the descriptions of the generalized lesions read, as Riddell says, like those of Fracastorius.

Even though it is of no great importance, it is interesting to know that the first medical magazine published in this country was a translation of a French one (*Journal de Médecine Militaire publié par ordre du roi . . .*, Paris, a quarterly, seven volumes, 1782-1788) which appeared with the title, *A Journal of the Practice of Medicine, Surgery, and Pharmacy, in the Military Hospitals of France . . . Translated from the French by Joseph Browne,* New-York, Printed by J. M'Lean and Co. The only copy, I have heard of, is at the Army Medical Library and they have only the first number of the first volume there. It is thought to have been printed in 1783 or 1790. Happy is the library that possesses a file of *The Medical Repository,* the first American medical periodical. The first edition, printed by T. & J. Swords of New York, made up of twenty-three volumes, was published between 1799 and 1824. The "Circular Address" in the first volume is signed by Samuel L. Mitchill, a splendid medical author who wrote also on other branches of knowledge, Edward Miller, and E. H. Smith. I shall not attempt to tell you of the other editions of this journal. Correspondence and book reviews in the magazine are important as well as the original articles. The journal is much prized today by collectors of Americana for its early accounts of explorations in the West and other such items. I show a slide of the first Canadian medical periodical, *Journal de Medecine de Quebec,* a quarterly of two volumes which began in 1826 and ended

in 1827 and had articles in English as well as French. The oldest Canadian hospital, the Hôtel Dieu at Quebec, founded in 1639, provides the hospital reports.

The next group of medical writings which I wish to take up are concerned with the inoculation treatment of smallpox and are familiarly known as the "inoculation pamphlets." The New York Academy of Medicine is fortunate in possessing almost a score of these. They are not all scientifically valuable but they serve to show how this therapeutic measure was introduced into this country, the opposition aroused, and how gradually the opinion of the doctors and the laity came to support it. As examples of early American printing these pamphlets are very valuable indeed.

In 1721 the sixth epidemic of smallpox broke out at Boston, the fifth having occurred in 1702 so that parents were fearful lest their children born after that date should contract the disease. It is true as Garrison says that "the mere idea of inoculation is apparently as old as the hills" but it was made known in England by communications to the Royal Society in the years 1713 to 1716, concerning the experiences in Turkey of two Greek physicians, Timoni and Pylarini. Lady Mary Wortley Montagu (1689-1762) must not be forgotten. She was the wife of the British Ambassador at Constantinople, wrote to her English friends about the practice, and had her little son inoculated in 1718. This inspired people in England and the custom was introduced there.

It is interesting that the wide-awake Rev. Cotton Mather (1663-1728) of Boston read the accounts by the Greek physicians in the *Philosophical Transactions* and was the first in Boston to see their significance. He tried to arouse the physicians but with little success for storms of abuse from the profession and laity burst upon him and our collection of pamphlets shows this well. Zabdiel Boylston (1679-1766) who was born in Brookline, Mass., and studied under Dr. John Cutter of Boston is deserving of all praise for he was the first to inoculate in North America, as far

as we know. On 26 June, 1721, he inoculated his six year old son and also his negro slaves, Jack, thirty-six years of age, and Jackey, aged two and a half. Boylston's pamphlet is called, *An Historical Account of the Small-Pox inoculated in New England, upon all Sorts of Persons, Whites, Blacks* . . . The Second Edition, corrected. London: Printed . . . MDCCXXVI. Re-Printed at Boston in N. E. for S. Gerrish in Cornhil, and T. Hancock at the Bible and Three Crowns in Annstreet, MDCCXXX. Increase Mather (1639-1723) also a minister, supported his son Cotton, as did the Rev. Benjamin Colman (1673-1747) and the Rev. William Cooper (1694-1743). We have some anonymous pamphlets, one of which bears the title: *A Vindication of the Ministers of Boston, from the Abuses & Scandals, lately cast upon them, in Diverse Printed Papers* . . ., Boston, 1722. Not only were some of these tracts published anonymously but pseudonyms appeared in the titles. Isaac Greenwood (1702-1745) the mathematician, is thought to have written one entitled *A Friendly Debate; or, a Dialogue, between Academicus; and Sawny & Mundungus, two Eminent Physicians, about some of their Late Performances* . . . , Boston, 1722. "Mundungus" may have stood for Dr. J. Williams (1664-1729) and it is supposed that "Sawny" represents Dr. William Douglass (1692-1752), the best known doctor in America at that time. He was a Scot who settled in Boston in 1718. Douglass it was, who, by irony of circumstances had lent the *Philosophical Transactions,* which contained the account of inoculation, to Cotton Mather, but in order that Mather should read another article. On this occasion the church had more foresight and was more keen witted than the medical profession as Douglass was much opposed to the new measure and wrote and published a tract addressed to Alexander Stuart (1673-1742), who was physician to Queen Caroline. That was in 1722, but it is most pleasing to learn that in 1730 Douglass saw the error of his ways and was man enough to publish a pamphlet saying so. Many were the hard words used, and one preacher, Edmund Massey, uttered his opinion in his *Sermon against the Dangerous*

and sinful Practice of Inoculation . . ., Boston, 1730, that none other than Satan himself was the first inoculator. *A Letter to a Friend in the Country, Attempting a Solution of the Scruples & Objections of a Conscientious or Religious Nature, commonly made against the New Way of Receiving the Small-Pox . . .*, Boston, 1721, was also written by a minister, William Cooper (1694-1743). There were as many objections raised on religious grounds as when Sir James Y. Simpson sought to introduce anaesthesia into the practice of midwifery.

That wonderful "many-sided" man Benjamin Franklin (1706-1790) and William Heberden (1710-1801), the London physician, each wrote one part of what is now known as the Franklin-Heberden pamphlet, London, 1759. The Academy luckily has a copy. The great John Morgan (1735-1789) and Benjamin Rush (1745-1813) of Philadelphia were enthusiastic inoculators also.

The most important name after that of Boylston in the history of the fight against smallpox in North America is Benjamin Waterhouse (1754-1846); Boylston was the first to inoculate and Waterhouse in 1800 was the first to vaccinate in the United States. You will remember that Edward Jenner (1749-1823) vaccinated for the first time in 1796 and his work *An Inquiry into the Causes and Effects of Variolae Vaccinae* was published in 1798. Waterhouse was the first Professor of the theory and practice of medicine at Harvard. In July 1800 he vaccinated his four children. His work is entitled *A Prospect of: Exterminating the Small-Pox . . .*, Boston, 1800, and "Part II" appeared in 1802. Thomas Jefferson did much to introduce vaccination into this country.*

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* Since this paper was read, Dr. Robert H. Halsey has published, *How the President, Thomas Jefferson and Doctor Benjamin Waterhouse Established Vaccination as a Public Health Procedure*, N. Y., 1936, 58 p., 3 pl., which is no. 5 in the "History of Medicine Series Issued under the Auspices of the Library of the New York Academy of Medicine."

John Tennent was an interesting figure in American medicine. Unfortunately we do not know his dates, but he was born in England and came out to Virginia about 1725. His chief claim to fame has been that he introduced senega or rattlesnake root to the profession as a remedy and we have the second edition of his *An Essay on the Pleurisy,* Williamsburg, Printed: New York: Reprinted and Sold by James Parker . . . 1742, the first edition having been printed in 1736 at Williamsburg, Va., by William Parks. If you listen to Tennent's own words you will see how logical he was in adopting this remedy from the Indians. He says:

> Again, as I observed before, since we are to infer the Sameness of Causes from the Likeness of Effects, there is another Reason why it should be done in this case, and that is, that those who have the Misfortune to be bit by a Rattle-Snake do spit up Blood, and cough like *Pleuritic* Patients; therefore it is beyond all Controversy that the Blood of a *Pleuritic* Patient, and that of one bit by a Rattle-Snake, is in the same State, or very near it. Upon this Certainty of Reasoning, I gave the Rattle-Snake Root to several Patients in a *Pleurisy* or *Peripneumony,* and it's Effects were extraordinary: I found it to exceed the *volatile Salt of Vipers,* or any thing that I ever knew given in that Disease: In short, it may justly be deemed a Certain Remedy.

A perusal of Tennent's *Essay* is sufficient to show that by "pleurisy" he really meant "pneumonia."

The first book printed in America on domestic medicine which I can find is anonymous and has the title *Every Man his own Doctor: or, The Poor Planter's Physician . . . ,* the second edition. Printed and sold by William Parks, at his Printing Offices in Williamsburg, and Annapolis, 1734. Price, One Shilling. A John Archer (*fl.* 1660-1684) wrote a book in England with the title *Every Man His Own Doctor . . . ,* London, 1671, of which we have the second edition, London, 1673, but this does not resemble *The Poor*

Planter's Physician. It has been suggested that Tennent was the author of the American book, and I think this is probably true, as Snake-root is mentioned as a remedy.

The next book is shown for several reasons, but one of the most important is that it was printed by Benjamin Franklin, and you need only look at the taste displayed in the title-page to see that he was a great printer. The book is *Essay on the West-India Dry-Gripes; with the Method of Preventing and Curing that Cruel Distemper. To which is added, an Extraordinary Case in Physick.* Philadelphia: Printed and sold by B. Franklin, 1745. The author was Thomas Cadwalader (1708-1799) who was born in Philadelphia and studied medicine in New York and in Europe. On the foundation of the Pennsylvania Hospital, which by the way is the oldest of the hospitals now existing in the United States, Cadwalader was made physician. The "Dry-Gripes" are nothing more or less than lead-colic, which was known in Southern France as early as the sixteenth century by the name of *colica Pictonum* and later in England as "Devonshire colic." Cadwalader did not know that lead was the cause of the colic but writes that drinking strong drams and strong punch and that the eating of "salted and high seasoned meats" played a part in bringing it about. It is generally said that Sir George Baker (1722-1809) in 1767 found that the cider-time colic was due to lead in the vats, but it is interesting to note that in 1786 Franklin wrote a letter to Mr. Vaughan (Benjamin Vaughan, 1751-1835) (see John Hunter's [*d.* 1809] *Observations on the Disease of the Army in Jamaica . . .*, London, 1788, p. 266-273) saying,

> The first thing I remember of this kind, was a general discourse in Boston when I was a boy, of a complaint from North Carolina against New England rum, that it poisoned their people, giving them the dry-belly-ach, with a loss of the use of their limbs. The distilleries being examined on the occasion, it was found that several of them used leaden still-heads and worms, and the physicians were of opinion that the mischief was occasioned by that use of lead. The

> legislature of the Massachusetts thereupon passed an act, prohibiting, under severe penalties, the use of such still-heads and worms thereafter.

The law* referred to was passed July 31, 1723 and was entitled "An Act for preventing abuses in distilling of Rhum and other strong Liquors with leaded heads or pipes," and begins:

> Whereas the Strong Liquors and Spirits that are Distilled thro' leaden Heads or Pipes, are judged on good grounds to be Unwholesome and Hurtful; . . . For . . . Prevention whereof: Be it enacted . . . That no Person whatsoever, shall make use of any such Leaden Heads or Worms for the future; and that whosoever shall presume to Distil, or draw off any Spirits or Strong Liquors thro' such Leaden Heads or Worms, . . . shall forfeit and pay a Fine of *One Hundred Pounds.*

This law included also makers of pewter, and ordered that two men should be chosen annually in each town in the province to "inspect and make Tryal of any such Heads and Worms." In 1767 in an address to the College of Physicians of London, (*Medical Transactions,* London, 1785, p. 286), Sir George Baker states that his

> suspicions, concerning this subject, have been greatly confirmed by the authority of Dr. Franklyn of Philadelphia. That gentleman informs me, that, at Boston, about forty years ago, leaden worms were used for the distillation of rum. In consequence thereof, such violent disorders were complained of by the drinkers of new rum, that the government found it expedient to enact a law, forbidding the use of any worms, except such only as were made of pure block-tin.

The name of Bard is doubly important in the annals of medicine in America, for there were two men, father and son. John Bard (1716-1799), the father, was born at Bur-

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* See also an editorial by me in *Annals of Medical History,* 1931, n.s. iii, 455-458, which should have borne the title "An Early Law to Prevent Lead Poisoning."

lington, New Jersey, and was apprenticed to the English surgeon John Kearsley (1685-1772) of Philadelphia. He was a friend of Franklin and came to practice in New York on the latter's advice. He and Dr. Peter Middleton (*d.* 1781) made the first anatomical dissection recorded in this country, but his greatest claim to fame is that in 1759 he performed the first operation for extra-uterine foetus (*Med. Observations and Inquiries by a Society of Physicians in London.* London, 1762, II, 369-372); the woman recovered. In the early days when there were no scientific magazines here, it was quite common for doctors to send their communications to learned societies in England or Scotland as Bard did on this occasion. I show a slide of the first page of Bard's "Essay on Malignant Pleurisy," which occupies both sides of a dozen leaves of paper. It is, I think, the oldest American MS. we possess at The New York Academy of Medicine. It is an account of pneumonia on Long Island in 1749. It is endorsed thus: "Drawn up at the request of a Weekly Society of Gentlemen in New York, and Addressed to them at one of their Meetings." It is evident, then, there was a medical society in New York in those days, but one had already been founded in Boston in 1735, fourteen years before. The honour of being the first to publish cases in its own volume probably goes to the Medical Society of New Haven County founded in 1784. It was issued in 1788. Unfortunately a professional scribe wrote Bard's essay, but I take it that the corrections are in John Bard's hand. Bard was much influenced by Sydenham's epidemiology and to be sure in parts of the "Essay" the ideas seem to have lost themselves in words. Who can foretell, however, that two hundred years hence the same will not be said of present day writings?

We now come to one of the most important literary and valuable manuscript treasures in The New York Academy of Medicine. It is a letter written by Benjamin Franklin (1706-1790) from Philadelphia on 8 December, 1752, to his brother John of Boston. It has been published in John Bigelow's edition of Franklin's works (1888, X, 264-266)

and in Albert Henry Smyth's edition (1907, III, 103-105) and was presented to the Academy by Fessenden Nott Otis (1825-1900), the urologist.* This letter must have been of great interest to Otis, for it is about a flexible catheter which Benjamin had made for his brother. Otis knew that Franklin did not invent the flexible catheter, for one Roncallus improved his own in 1720. The letter opens with the sentence:

> Reflecting yesterday on your Desire to have a flexible Catheter, A thought struck into my Mind how one might possibly be made: And lest you should not readily conceive it by any description of mine, I went immediately to the Silversmith's & gave Directions for making one, (sitting by till it was finish'd), that it might be ready for this Post.

Benjamin by his remarks and suggestions as to improvements if it did not work well, shows that he thoroughly understood what was required of such an instrument. John almost certainly suffered from stone and he had evidently asked Benjamin's opinion about what should be done and upon Robert Whytt's (1714-1766) treatment of stone with lime water (*Medical Essays and Observations. Revised and Published by a Society in Edinburgh,* 1744, V, Part II, Art. LXIX, 667-750 and *An Essay on the Virtue of Lime Water and Soap in the Cure of Stone,* Edin. 1752, 12°). Benjamin at the end of his letter writes that he had read "Whytt on Lime Water." He thinks the experiments are good and adds as postscript that they "are approv'd & recommended by Dr. Mead" but is too canny to give his opinion upon the possibilities of such treatment. He shrewdly answers what was evidently another question with the remark: "May not one guess by holding Lime Water sometime [*sic*] in one's Mouth, whether it is likely to injure the Bladder?"

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* This letter has been reproduced in facsimile and published by the Morrill Press, Fulton, N. Y., 1934, together with a comment by Dr. Edward Loughbrough Keyes.

The leaf which bears the address, and was folded to enclose the letter, bears a crest in red sealing-wax and on my inquiries to prove this was Franklin's I was told by Mr. George Simpson Eddy, a great authority on him, that there had been a mild family row about it. Now John was a soap maker as well as a printer and he wished to impress the coat of arms upon the fair face of his soap, but Benjamin would have none of it and later advised his sister, Mrs. Jane Mecom, not to allow her young son to do so either (*The Writings of Benjamin Franklin . . .*, edited by Albert Henry Smyth, 1907, III, 403).

John Morgan (1735-1789) should not be omitted from any sketch of early American medicine. He was born in Philadelphia where he studied under John Redman (1722-1808) as his apprentice for six years, then, after being surgeon in the Army for four years, he went to Edinburgh where he got his degree in 1762, and later studied in France and Italy. On returning to Philadelphia after five years abroad he founded in 1765 the first medical school in the American Colonies—the medical department of the University of Pennsylvania then known as the College of Philadelphia. He became the first professor of the theory and practice of physic. In 1775 he was made Director General and Physician in Chief of the American Army, succeeding Benjamin Church (1734-1776), who had been imprisoned as a traitor, but rivalries and political quarrels were sufficient to induce Congress to dismiss him wrongly in 1777. His position was taken by William Shippen, Jun. (1736-1808). In 1779 a court of inquiry vindicated Morgan. I wish to show one of his books because it is the first American publication on medical education; it is entitled *A Discourse upon the Institution of Medical Schools in America . . .*, Philadelphia, 1765. This is addressed "To the Trustees of the College, and the Citizens of Philadelphia." A most interesting preface gives side-lights upon the times especially upon the question of fees and whether the fee for medicines should be included with that for attendance. Morgan says that he will practise medicine

only and will not prepare prescriptions or do surgical operations. In the *Discourse* itself the nature and importance of each of the branches of medical undergraduate study is discussed. Now there is everywhere in the air around us a discussion about medical education and it is wholesome to learn from reading this book that there was great concern even in 1765 about what, and how, and when a student should be taught. The section "Pre-requisites to the Study of Medicine," is important and Morgan puts the matter in a nutshell:

> Young men ought to come well prepared for the study of Medicine, by having their minds enriched with all the aids they can receive from the languages and the liberal arts.... There is no art yet known which may not contribute somewhat to the improvement of Medicine; nor is there any one which requires more assistance than that of Physic from every other science. Let young men therefore, who would engage in the pursuit of Medicine or Surgery, make use of all their industry, to possess themselves in good time of these acquisitions. They are necessary to facilitate progress in the healing arts; they embellish the understanding, and give many peculiar advantages, unattainable without them.

The first American publication on medical history entitled *A Medical Discourse, or an Historical Inquiry into the Ancient State of Medicine . . .*, was written by Peter Middleton (*d.* 1781) and printed in New York by that important printer, Hugh Gaine, in 1769. Middleton was a Scotsman who studied at St. Andrew's and emigrated to New York. As noted above, he and John Bard in 1750 carried out the first anatomical dissection in the United States, or at least the first of which we have record. He was influential in helping to found the medical department of King's College, later Columbia University, where he was professor of pathology and physiology. The address is one which sweeps widely over the history of medicine from its first beginnings and in all countries "from China to Peru."

Quite appropriately a couple of pages are devoted to the religious and medical ideas and practices of "the warlike savages of North-America."

We now come to the works of Samuel Bard (1742-1821) one of the most important medical men of eighteenth century New York. He was the son of John Bard, and helped to found the medical department of King's College (Columbia) in 1767 where he was the first professor of the theory and practice of medicine, and the New York Hospital in 1771, although it was not opened until 1791. The first of his books which I wish to show you is also the first American publication on medical ethics—*A Discourse upon the Duties of a Physician . . .*, New York, A. & J. Robertson, 1769. He lays stress upon the necessity for high ideals amongst physicians and right conduct towards the poor and towards their brother practitioners. Also he pleads that a hospital should be founded in New York. This address of eighteen pages has a peculiar interest for The New York Academy of Medicine for the quotation from Cicero, *Homines ad Deos, nulla re proprius accedunt, quam Salutem Hominibus dando,* which Dr. Dana has translated "Men in no way approach so nearly to the gods as in giving health to men," stands at the head of the first page, and now it is carved on the north face of the new building of the Academy. This motto was first used in our *Transactions* in the first volume of the second series in 1874. I thought it probable that the quotation for the Academy was first hit upon in this *Discourse* but lately, in rummaging amongst some old books, I have seen that it was used by Gooch on the title-page of his *Practical Treatise on Wounds . . .*, Norwich, 1767, and perhaps the bright eye of some father of the Academy spied it out there. And again I cannot say whether or not one of them knew his Cicero at first hand! We have the *Discourse* in facsimile only, but there are copies at Columbia and the New York Public Library. Our copy of the original edition was given away—before I came to the Academy.

Samuel Bard's important contribution was *An Enquiry into the Nature Cause, and Cure of Angina Suffocativa,*

New York, 1771. This disease was diphtheria and surely his was a finely descriptive name for it, in those days long before O'Dwyer's (1841-1898) intubation and before the antitoxin treatment were introduced. This was not the first American book on sore throat; the most important previous one being William Douglass's (1692-1752) *The Practical History of a New Epidemical Eruptive Miliary Fever, with an Angina Ulcuculosa . . .*, Boston, 1736. It is very difficult indeed to make out what affection of the throat is described in these old writings, for it is not an easy task for us to throw ourselves back and gain their point of view. Douglass's book is generally thought to be about scarlet fever. In Richard Bayley's (1745-1801) book, *Cases of Angina Trachealis, with the Mode of Cure . . .*, New York, Hugh Gaine, 1781, there is an interesting list of synonyms for diphtheria. I wonder how many of us know that the disease was sometimes called "the hives," "the bladder in the throat," etc. This book is rare indeed (and we should be proud that we have a copy) for in *The Medical Repository,* the first American medical magazine, for 1808-1809, Second Hexade, VI, 331-339, it is stated that a complete copy could not be found, but it was reprinted incomplete as it was. The gap was filled in the same journal for 1810-1811, Third Hexade, II, 345-351. Bayley was professor of surgery at Columbia College and health-officer in New York.

Samuel Bard was also author of the first American textbook of obstetrics, *A Compendium of the Theory and Practice of Midwifery . . .*, New York, 1807. This passed through five editions and Bard's own copy of the last one (1819) is in the Academy and is divided up into many sections, interleaved with blank sheets and contains many manuscript changes in text and figures for a further edition.

The first American textbook of surgery and military surgery was written by John Jones (1729-1791). He was born on Long Island and was a pupil of Thomas Cadwalader of Philadelphia and of the great William Hunter

(1718-1783) of London. Jones practised surgery in New York, was professor of that subject in King's College, and was the first lithotomist there. His book *Plain Concise Practical Remarks on the Treatment of Wounds and Fractures . . .*, New York, 1775, is dedicated to Jones's teacher, Cadwalader, and is dated 12 October, 1775. It is just the sort of book one should expect from a good surgeon—brief and to the point with only ninety-two pages. Do you remember that it was said of the great Syme (1799-1870) that: "he never wasted a word, nor a drop of ink, nor a drop of blood"? Syme's important *Principles of Surgery,* fifth edition and last, 1863, was smaller than the first edition of 1832. In Jones's book there are chapters on wounds in general, inflammation, penetrating wounds of the thorax and abdomen, fractures, blows on the head and concussion, injuries arising from fractures of the skull, gunshot wounds, and finally an appendix giving hints upon the structure and economy of hospitals. The most interesting chapters, to my mind, are about head injuries. On account of the war, the second edition, 1776, was issued from Philadelphia.

Richard Cort Skinner was the author of the first American book on dentistry. The title is indeed a mouthful—*A Treatise on the Human Teeth, concisely explaining their Structure, and Cause of Disease and Decay: to which is added, the most Beneficial and Effectual Method of Treating all Disorders Incidental to the Teeth and Gums; with Directions for their Judicious Extraction, and Proper Mode of Preservation: Interspersed with Observations interesting to, and Worthy the Attention of Every Individual.* By R. C. Skinner, Surgeon Dentist: New York: Printed by Johnson & Stryker, No. 29 Gold Street, for the Author, 1801. Copyright secured. As the author says in his preface, this unbound tract of twenty-six pages "is put into the hands of the public, for the inconsiderable sum of thirty cents." Up to a short time ago nothing more was known of Skinner than that he was author of this pamphlet. But thanks to the tireless exertions of Dr. Bernhard W. Weinberger, the historian of dentistry and Consultant

in Dental Bibliography to The New York Academy of Medicine, who has kindly given me information, some details of his life stand revealed. He was an Englishman who had studied dentistry under Bartolomeo Ruspini of Pall Mall, one of the most successful practitioners of London. The first record of him in this country is found in a letter he wrote in 1788 at Philadelphia to Benjamin Franklin in which he relates that he is in poverty and wishes the loan of twenty dollars with which to set up in practice there. Dr. Weinberger by discovering advertisements in various newspapers has learnt that Skinner began to practise at Philadelphia early in 1789, moved to New York in 1791 and at first lived at 27 John Street. He was appointed dentist to the Dispensary of New York City. He advertised in the *Hudson Gazette* in 1795 and in the *Norfolk Herald* in 1796, for he was itinerant dentist and spent some time here and some time there. He bobs up again at Philadelphia in 1796 and the first of many visits to Hartford was in 1800. He married Miss Mary Whiteman of Hartford. Apparently his *Treatise on the Human Teeth* had been published as early as 1796, but a copy cannot be found. The copy of the 1801 edition at the Academy bears an inscription, probably in the author's hand, below the imprint commencing with the words, "R. C. Skinner Respectfully [informs?] the public" etc. so it is likely that his work was mildly advertised. We must remember, however, that what is considered advertising today was not necessarily counted as such a century or so ago. Indeed his "Advertisement to the Public" states that he is "uninfluenced by expectations of remuneration." At the end of the tract is a list of "Established Fees" and it is interesting to note that this dentist charged three guineas "for setting a common cork leg." He also put in artificial eyes and "transplanted artificial and living teeth." This rare little pamphlet was indeed the beginning of great things in dentistry on this continent.

We owe a great debt of gratitude to James Thacher who was born in 1754 at Barnstable, Massachusetts, and died in 1844 at Plymouth, for he was author of the first book

on American medical biography. It is called *American Medical Biography,* Boston, 1828, and as is stated on the title-page the book is usually found bound "two volumes in one." The two volumes together fill seven hundred and sixteen pages, and are a veritable mine of information. At the beginning of the first volume there is a valuable history of medicine in America, state by state, which takes up eighty-five pages. During the Revolution, Thacher served first as surgeon's mate and then as surgeon, and his military journal, I am told, is an important source book. Thacher wrote *The American New Dispensatory,* 1810, *The American Orchardist,* 1822, and other books. The large photograph of his portrait which I have at home belonged to Sir William Osler, and beneath it is written "Author of the first American Textbook," that is, *American Modern Practice,* Boston, 1817.

FRANS CORNELIS DONDERS
DUTCH PHYSIOLOGIST AND OPHTHALMOLOGIST

RAYMOND L. PFEIFFER

The eminence of Holland in medical history began with the clinical method of instruction advocated first by Jan Van Heurne in 1591. A few years later the brilliant expositor, Franciscus Sylvius, who was one of the first to accept the theory of the circulation of the blood advanced by his contemporary Harvey, and apply it to teaching, placed Holland foremost in medical education.

In the 17th century the universities of Leyden, Amsterdam, and The Hague, were great centers of teaching. At Leyden were Sylvius, Ruysch, Nuck, and Bidloo, foremost anatomists of the period, who were portrayed on canvas by the great artists Rembrandt, Adriaen Backer, and van Neck. Here at Leyden was built, at the instigation of Sylvius, the first university laboratory in which his pupils, Willis, de Graaf, Stenson, and Swammerdam, probably studied. At Amsterdam were Roonhuyze, a skillful operator, gynecologist, and orthopedist; and Swammerdam, a microscopist, who made many discoveries in comparative and human anatomy. At The Hague was van Deventer, "the father of modern midwifery". At this time, too, van Leeuwenhoek of Delft, that shrewd and brilliant observer, was announcing his startling discoveries to the Royal Society at London.

In the 18th century Herman Boerhaave, the greatest physician of modern times, alone made Holland the center of medical culture. With his great clinical and diagnostic acumen, Boerhaave, a man of wide learning, an incomparable lecturer, skilled chemist, botanist and anatomist, attracted students from far and wide. The inspiration of Boerhaave led to the founding of the Edinburgh Medical School, and through it to the beginning of modern medical teaching in the English-speaking countries of the world. He is regarded by Charles Singer as the one person to whom English medicine is most indebted. His pupil, Haller, is

the only figure at all comparable to him in the 18th century. Van Swieten, also a pupil of Boerhaave, and a Dutchman, was called to Vienna, and raised the medical school there to international prominence. It is to van Swieten that the University of Vienna owes its world-wide reputation, and Austria no small share of her importance as a cultural center.

In the 19th century Frans Cornelis Donders, upon whose place in medical history we wish to focus attention, stands out as the greatest Hollander of medical science: great first as physiologist, then as ophthalmologist. It is as ophthalmologist that his name will go down in history among the immortals. His great work, the elucidation of the anomalies of refraction and accommodation, a contribution to physiologic optics, stands today as a classic and the authority on refraction. This work, with that of Helmholtz and von Graefe, placed ophthalmology and the surgery of the eye on a scientific basis. As a man there is perhaps in the whole history of medicine no character more noble, no personality more attractive, no "savant" more deserving of the adjectives "great" and "good" than Donders.

Donders was born on May 27, 1818, in Tilburg, Holland. He was the only son and the youngest in a family of nine children, whose father, a merchant, died soon after his birth, leaving the family poorly provided for. He was sent to school in Duizel, a small village near Tilburg, where he attracted attention through his unusual intelligence, and where at the age of eleven he was employed as an assistant teacher. At the age of thirteen he entered and remained for three years at the monastery in Boxmeer, for his mother planned he should become a priest. Here he acquired command of the Latin language, a love of scholarship, spiritual and aesthetic development, and a desire for knowledge. The splendid mental discipline acquired through this Latin teaching accounted for his later mastery of English, French, and German.

In 1835 he became a student at the Military-Medical School, and at the same time studied medicine at the Uni-

versity in Utrecht. In 1840 he took the examination for the degree of doctor of medicine in Leyden, because the faculty in Utrecht would not give him credit for certain practical work he had done for two years in the military school. The same year he received his doctorate from the faculty of Leyden on the thesis *Dissertatio Inauguralis Sistens Observationes Anatomico-Pathologicas de Centro-Nervoso.* This dissertation was based on two cases of acute cerebral meningitis, and was notable for its precision, the completeness of the clinical observations, and the thoroughness of the autopsy examinations. In this work Donders gave a classic description of spinal meningitis. Histologic studies, however, were not included in the thesis, for the microscope was just coming into use in pathologic investigations.

Donders graduated at a time in medical history when the foundation of modern scientific medicine was being laid. Henle, who later became Donders' close friend, had published the results of experiments on epithelium only three years earlier, and it was in 1841 that his great work, "Allgemeine Anatomie", his first treatise on microscopic histology appeared. Johannes Müller's monumental work on tumors was published in 1838, and his great work on physiology was just completed. The discoveries of Schleiden and Schwann date from 1838, and it was about this time that von Baer, Bischoff, Charles Bell in neurology, and many others, were announcing their discoveries. The great schools of physiology of Johannes Müller, and of Magendie were preparing the giants Helmholtz, du Bois Reymond, Brücke, Ludwig, Virchow, and Claude Bernard. It was in the company of these investigators that Donders took his place, to become a close friend of each.

At the age of twenty-four he was called to Utrecht to join the faculty of the reorganized Military-Medical School, to teach anatomy, histology, and physiology. His industry and modesty attracted the attention of Mulder, who was then compiling his famous and first book on physiologic (organic) chemistry. According to Moleschott, philosopher and physiologist at the University of Rome, Mulder was one of the first, if not the first, who recognized that

the study of metabolism concerns not the chemical composition of the organs, but of the tissues and their constituent parts. Donders joined Mulder in his studies on the chemistry of tissues, and then followed his first original contributions.

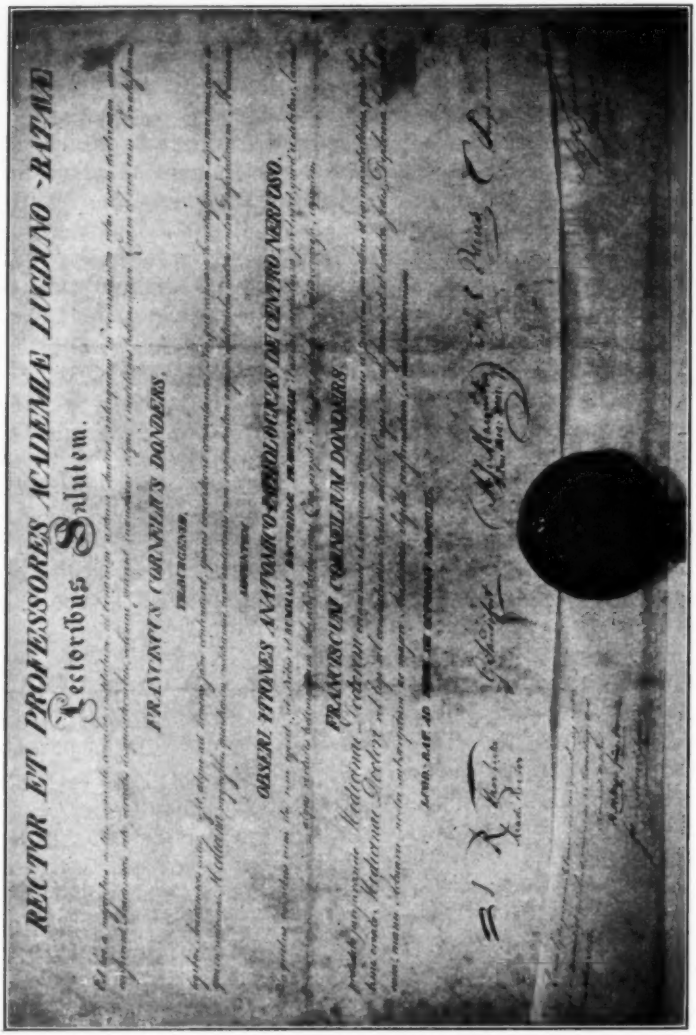
Schwann and Henle were applying acetic acid and water to tissues in their experiments, and were amazed when informed of the daring of Mulder and Donders. Moleschott said, "I can still see the incredulous astonishment on Henle's face when I told him, in 1844, that Mulder and Donders were busy applying lye and sulphuric acid to the tissues, one after another."

Their new and extensive experiment was conducted precisely and logically, and the proper classification of tissues and their constituent parts, theories held by Virchow and others, originated in part in the microscopic experiments of Donders and Mulder. During this work Donders with two others began to publish the "Nederlandsch Lancet". At this time his lecture on animal body heat was published. He explained the balance which exists between the generation of heat and the cooling mechanism of the skin. He gave also a clear definition of the principles of the conservation of energy.

Moleschott described an evening when he first met Virchow in 1847 at Henle's home in Heidelberg. Virchow was returning from a trip to Holland where he had met Donders and Mulder, and was most enthusiastic in his praise of these energetic workers, and predicted the epoch-making results which were to follow.

Besides the original work which was coming from Donders' pen, there were also translations of excellent German books: Stromeyer's Surgery, and Ruete's Ophthalmology. During 1847 there appeared six papers, three of these on ophthalmic subjects. These contributions indicated his capability, and assured his future. He was gaining recognition, not for his genius alone, but for his quiet, tireless industry as well.

Then in 1847 Donders was appointed professor on the medical faculty of the University of Utrecht. This appoint-



Donders' Medical Diploma.

ment came to him though there was no position open at the time. The faculty and the government realized that a man of such unusual ability should be secured for the university. On January 28, 1848, he began his work in his new position with an address entitled "The Harmony in Animal Life, a Revelation of Laws". He promptly established a small laboratory and continued his labor. Papers on various subjects followed. In 1848 appeared his paper on "The Use of Prismatic Lenses for the Treatment of Squint" and papers on the physiology of the eye and on general physiological subjects.

In these early years at Utrecht he taught six different subjects, among them physiologic optics. This he taught so well that his friends urged him to devote himself to practical ophthalmology. A physician from Cape Colony, van der Bijl, together with Sir James Simpson of Edinburgh, induced him to go to London in 1851 to study under Bowman and Guthrie. Donders was persuaded to take up this special study, for he was unwittingly and without adequate preparation, developing a practice in ophthalmology.

Donders arrived in London during the First International Exposition. There he met the physiologist-ophthalmologist Bowman, the great eye surgeon Frederick von Jaeger, and the immortal Albrecht von Graefe. Already known by his works on the physiology of the eye, he was received by them with open arms. They introduced him in the hospitals of the great capital and encouraged him to carry on his scientific research in ophthalmology, and to apply himself practically. From then on an intimate and touching friendship united the three greatest ophthalmologists of the epoch, Donders, Bowman, and von Graefe. The frequent visits together and the cooperation of these three men instantly placed the specialty of ophthalmology in the first rank of medical science. At this time Donders developed other lasting friendships; Sharpey and James Paget corresponded with him through the following years.

Years later Donders referred to this fateful meeting when he received the delegates of the Royal Society at his Jubilee in Utrecht. I found this paper among the many

Sir William Bowman and Cornelis Donders

of Donders which I have. It is a fine example of his English composition, and reveals something of the spirit of the man. The delegation addressed was headed by Sir Joseph Lister, representing the Royal Society, by Hughlings Jackson of the Physiological Society, and Jonathan Hutchinson of the Ophthalmological Society of London. He addressed Sir Joseph Lister.

"My dear friend, I am deeply moved by the courtesy of the Royal Society, which has decided to send me its compliments and congratulations on this day by means of special delegates. And I am exceedingly happy that you, my dear Sir Joseph, are one of those delegates.

It is now almost forty years ago that I visited England for the first time, and it is to that visit that I owe two friends who have since been brothers to me on the path of life: Albrecht von Graefe, the younger of the two, a visitor to England as I was myself, and William Bowman, our mutual friend. Graefe passed away many years ago after a short but brilliant career; Bowman, the elder one, remains to the present day my most intimate friend, and I regret that he has been prevented from coming, as he wished to have done. But even if I cannot press his hand today, still I recognize it in the numerous tokens of sympathy from England, and also in the delegation of the Royal Society.

Let me thank you, my dear friend, for having accepted to be one of the delegates, and allow me to repeat to my countrymen here assembled, that in you we have amongst us one of the great benefactors of mankind.

I would kindly request you to be the interpreter to the Royal Society of my sincere gratitude for the honor which the Society has done to one of her humblest members." (Donders was a member of the Royal Society of London).

Furnished with letters from von Graefe, who had recently left Paris, Donders went from London to Paris to study under Sichel and Desmarres. In Paris he was elected an honorary member of the "Société de Biologie", and joined the circle of the younger Parisian physiologists, which included Claude Bernard, Charles Robin, Brown-Sequard, and Lebert.

In 1851, just a quarter of a year after Helmholtz had invented the ophthalmoscope, Donders returned to Holland and began to practice as an oculist in Utrecht at the age of 33. It was partly necessity, happily for mankind, that drove him to take this step, for his salary as professor was too small for the support of his family.

The moment was propitious for his advent in the practice of ophthalmology. Clinicians, such as Beer, Desmarres, Sichel and Arlt, had already advanced far the art of curing external affections of the eye. With the ophthalmoscope Helmholtz had just made accessible the interior of the eye to the general physician as well as the specialist. At this time, too, Helmholtz made known in full the dioptric mechanism of the eye and introduced the new science of physiologic optics.

In 1855 Donders became co-editor with von Graefe and von Arlt of the *Archiv für Ophthalmologie,* which von Graefe had begun the year before.

During the next ten years he produced many brilliant papers on general physiological as well as ophthalmological studies. Contributions to our knowledge of the formation of blood and lymph appeared. There were studies on intestinal function and the digestion of fat. He produced a textbook on physiology which was used in many countries. But his attention became more and more centered on the eye. There were many papers on observations with the ophthalmoscope in the normal and abnormal eye, and on observations in animals' eyes. In 1858 he wrote two epoch-making papers on the use and selection of spectacles. He presented systematic methods of refraction, and gave indications for the use of spectacles.

In 1862 he succeeded his former teacher, Schroeder van der Kolk, as professor of physiology in the University of Utrecht. It was in this year that he produced the celebrated monograph on "Astigmatism and Cylindrical Lenses". Astigmatism was recognized in 1793 by Thomas Young, and he had had a cylindrical lens ground to correct it. Gersen in 1810 attributed astigmatism to irregular curvature of the cornea. The name was given to the condition

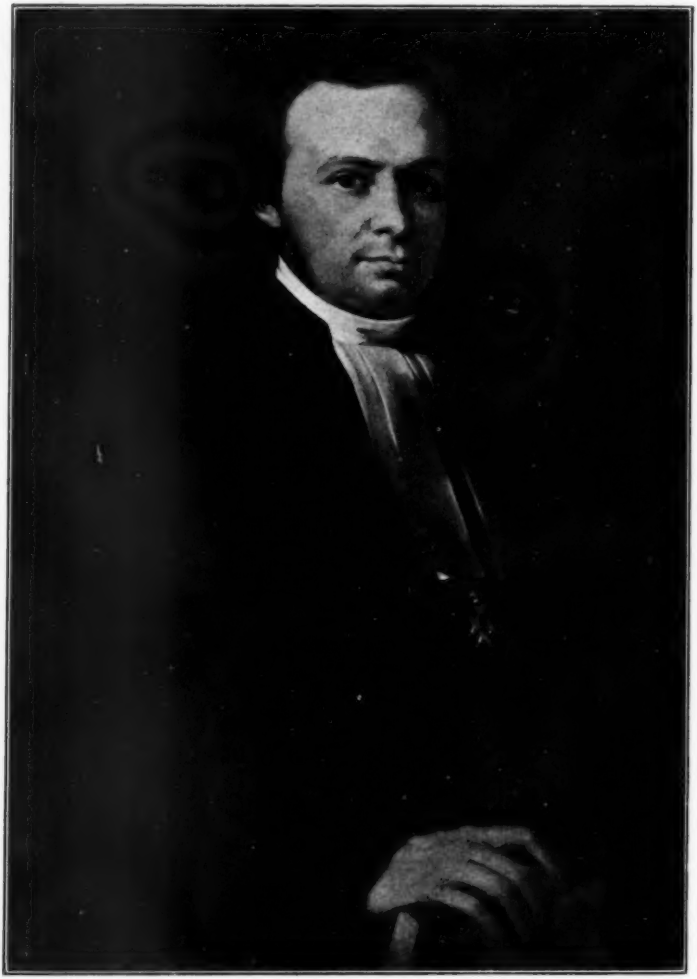
in 1827 by Airy, the astronomer. But it remained for Donders to make known how frequent and important these errors are, and how they were to be corrected. Systems, or trial sets of cylindrical lenses, then came into use. In 1864 Donders wrote:

"As the ophthalmoscope is important for the objective diagnosis of defects of the eye, so is a collection of spectacle-glasses for their subjective investigation. Such glasses are indispensable for the determination not only of anomalies of refraction and accommodation, but also of the accuracy of vision, so that without them an examination of the functions of the eye is impossible."

One of Donders' contemporaries wished, in his enthusiasm, to attribute everything, even the discovery of astigmatism, to the illustrious master. Donders corrected him, "Pardon me, my friend, astigmatism was known long before me; I have only discovered those afflicted with astigmatism."

The next year papers appeared on the cause of strabismus, anomalies of refraction and their consequence, the determination of focal distance of lenses, the amplitude of accommodation, and on his invention, the ophthalmotonometer. In the year 1864 appeared his magnum opus, "On the Anomalies of Accommodation and Refraction of the Eye", which was printed first in English by the New Sydenham Society. In the *Archives of Ophthalmology* for January, 1934, Harry Friedenwald wrote, referring to Donders' works on astigmatism and on refraction, "These works produced a revolution in the attitude of the medical profession to the problems of refraction. The work on 'Refraction and Accommodation' appeared in 1866 in German, and later in other languages and met with universal acceptance. It is one of the ophthalmologic works which deserves to be called classic in the sense that its value is enduring."

This work should be read by every practitioner of ophthalmology today. It contains Donders' explanation of astigmatism, his definitions of aphakia and hypermetropia, his sharp distinctions between myopia, hypermetropia, and



Frans Cornelis Donders, at about the time he produced his magnum opus (1864). The portrait which hangs in the Institute of Ophthalmology of the Presbyterian Hospital of New York.

presbyopia, his views on hypermetropia with excessive convergence, and resulting convergent strabismus, of myopia and divergent strabismus, of the ciliary muscle as the only muscle of accommodation and of its effect on the lens, and of asthenopia as the result of anomalies of refraction or muscular insufficiency.

Edmont Landolt wrote, "One does not really know what he should admire most: the multitude and correctness of his observations, the wealth of his ideas, or the exactness of his experiments. I should like to know where work exists written on subjects as difficult as the physiologic optics of Helmholtz and the 'Anomalies' of Donders, which posterity has added so little to, or changed so slightly."

These remarkable works drew to the master of Utrecht both patients and pupils. They were equally well received. The need of a hospital for the former and a laboratory for the latter became urgent. The name of Donders was gaining in international fame, and he was so well esteemed in his own country that he had only to make known the need, and donations poured in from all sides. In 1859 he founded the Netherlands Eye Hospital, which he developed for the indigent and poor into a world-famous eye clinic. Herman Snellen, an ingenious clinician and clever surgeon, became Donders' right hand in the hospital, and later in 1877 his successor in the chair of ophthalmology.

A new laboratory built and equipped according to Donders' wishes was opened in 1866. Theodore Engelmann later professor of physiology in the University of Berlin, became his co-worker, assistant, and successor in the chair of physiology, and worthily replaced him whose work he continued and completed. Contributions poured forth from this hall of science to attract the attention of the medical world.

Donders was sought after to succeed Helmholtz at Bonn, but in place of accepting the attractive offer, he created at Utrecht a course in physiology and in the sciences applied to ophthalmology. Medical men and ophthalmologists the world over went to Utrecht to study under the great

master, and returned home to become masters. Ophthalmologists everywhere prided themselves on becoming, for a time at least, pupils at Utrecht.

Donders had many students from America who subsequently became this country's foremost ophthalmologists. Hasket Derby of Boston, and Ezra Dyer of Philadelphia, companions in Utrecht, were careful students of Donders. They returned to America to become pioneers in refraction. In 1863 Derby reported four patients with astigmatism, which he had corrected with lenses ground for them in Berlin. Other outstanding students of Donders were Henry D. Noyes, Cornelius Agnew and Herman Knapp of New York, John Green of St. Louis, and Charles Oliver of Philadelphia. Henry W. Williams of Boston, and William Thomson of Philadelphia were intimate friends of Donders.

Until 1883 contributions came sparkling from Donders' pen on general physiologic studies as well as on subjects relating to vision. His work on the physiology of speech is of great importance. One of his most important contributions to physiology was the first measurement of the reaction time of a psychical process, published in 1868. According to Landolt, there is not a spot in the vast science of physiology in which Donders has not left definite marks of his work. The life of tissues, the circulation of the blood, the digestion, the secretions, the organs of the senses, speech, functions of the nervous system, were explained in turn.

Donders' work in physiology made him a figure of equal importance with von Helmholtz, Virchow, Carl Ludwig, du Bois Reymond, Claude Bernard, and others, in the development of medical science in the latter half of the nineteenth century. Donders had a fairly constant correspondence with most of these celebrated scientists. Many letters from these great immortals to Donders are in our collection.

There was no end to the honors which came to Donders. Perhaps none delighted him more than the tributes of his disciples. In 1872, when he had finished 25 years of teaching in the University of Utrecht, his former pupils fêted him with honors and gifts, tokens of esteem and love. He was made honorary member of many of the physiological

and ophthalmological societies of various countries of Europe and America. He was knighted by several kings. Napoleon III saw fit to honor him. He received the L.L.D. degree from Cambridge and honorary degrees from a host of other universities. The von Graefe medal was given to him.

Appreciation was shown by his contemporaries in medicine. One day the great master went to the house of Critchett, at London, whose hospitality had become famous. When the celebrated English practitioner returned from his consultations, a little late for dinner, he said to Donders with his always good-natured smile, "My dear friend, you think you are my guest; I am rather yours, and what is more, your debtor."

Then finally, in 1888, it came time for his retirement from the professorship in the university. The law of Holland requires the retirement of professorial men who reach seventy. It seemed at the time that the law might be relaxed in Donders' favor, for he was in splendid health, and gave promise of having many fruitful years before him. This automatic cessation from labor seemed a great loss indeed to his students. Donders, however, planned to continue his work.

To honor his retirement, a great festive occasion was held, beginning May 27, 1888. This great Jubilee was attended by hundreds of men of all ages from every nation, and from every social position. Delegations were sent from many countries to represent their various medical societies. A huge fund (£35,738.20) was built up and given to Donders, to be known as the Donders Fund, to be used as he should designate for the advancement of medical science in Holland. A Donders volume of original contributions was published. Many gifts were given to him. Telegrams of congratulations and esteem from the world's great medical men who could not attend, were received. No greater deference could have been shown to one to whom we are all indebted.

Hardly three months after the medical men of the world had given their tributes and expressions of esteem at the

Jubilee, Donders became ill. The following article, reporting his illness, appeared in the Lancet, March 23, 1889:

Illness of Emeritus Professor Donders

"Profound regret is caused through the medical world by the announcement of the grave illness of this eminent Dutch physician, and ophthalmologist. At his recent Jubilee, when, as we have already indicated, he had retired from academic work for no other reason than compliance with the consuetudinary law of universities in Holland, by which no professor can occupy a Chair after his 70th year, he looked as if his active life was to be extended far beyond the term of the Psalmist. On the festive occasion referred to, he seemed as young in years as in energy and spirit, and it was even suggested that the hard and fast regulation that deprived Utrecht and Holland of his services might, by statutory provisions be relaxed in his favor. But *dis aliter visum!* Apoplectic seizures of progressively increased gravity have left his physical and mental powers so impaired that all hope of his restoration to health has now been abandoned. First, his memory, then his power of sustained attention, finally reason itself, all have gone; and one of the clearest and strongest intellects ever devoted to medicine is now sunk in dementia. He has moments—so we learn from one who is near and dear to him—of acute physical pain; so acute, indeed, as to mitigate the poignancy of the conviction that his end is now so near."

One day later, March 24, 1889, he was dead.

Professor Donders was a man of commanding presence, lofty stature, dark complexion, rugged features, with bright, kindly eyes, and a sprightly manner. It is said that he attracted attention wherever he went, partly through his tall, strong figure, his penetrating eye, his whole appearance, but chiefly through what he said, for his general knowledge was vast.

"He was highly accomplished, speaking English, French, and German like a native, yet modest to the point of diffidence. His earlier military avocations gave him a polished

tenue, which, with his natural personal charm, made him known all over Europe as one of the most attractive specialists of his time."

Edmont Landolt, who was at one time a student of Donders, wrote: "He possessed all the qualities which make a perfect professor: an erudition as profound as extensive, an excellent memory, an intelligence capable of putting himself within the understanding of his listeners, a mind which colored abstract matters, versatility of speech, a sonorous and flexible voice, noble and significant gestures. Something sublime emanated from this great and fine man, something at the same time imposing, captivating and sympathetic: great knowledge, and a great desire to give knowledge."

In 1922, long after his death, the Donders monument was dedicated in Utrecht. The war prevented the building and unveiling of this memorial in 1918, which was intended to commemorate the 100th anniversary of his birth. More recently than this the name of Donders has been honored in Holland. Last year an issue of stamps was dedicated to him. Today every student and practitioner of ophthalmology the world over is acquainted with his great name and daily practice principles taught first by this illustrious physician.

In conclusion I must state that the chief authorities which I have consulted are: the short autobiography of Donders published in Het Jubileum van F. C. Donders; the paper written by Doctor E. Landolt and published in the *Arch. d'Ophtalmologie* in 1888; the speech by Dr. C. A. Pehelharing delivered at the unveiling of the monument in 1922, and the many obituary notices. Authority for linking the names of many of his contemporaries with Donders comes from the many letters of these contemporaries to him, which are in my possession. I am indebted to Frau Professor Paul Krais of Dresden, granddaughter of Donders, for the illustrations. My sources for the short introductory sketch of the history of Dutch medicine were Garrison's great work, and the works of Charles Singer, Billroth, and Gorton.

ELEVENTH SERIES
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FRIDAY AFTERNOON LECTURES
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1936-1937

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1936

NOVEMBER 6

The early diagnosis and treatment of hypertensive cardiovascular disease.

This lecture deals with the possible causes of vascular disease with hypertension, including such factors as heredity, environment and personality. Report is given of clinical studies of apparent initiating factors. An attempt is made to name the earliest manifestations of the disease both functional and organic. The development of symptoms and physical signs, the rate of their progression and their bearing upon prognosis are discussed, as are prevention and treatment.

W. W. HERRICK, *Professor of Clinical Medicine, College of Physicians and Surgeons, Columbia University.*

NOVEMBER 13

The Gallbladder Problem

The frequency of gallbladder disease, the etiology of gallbladder disease, modern methods of diagnosis, the problem of the stoneless gallbladder, newer studies on the etiology of gallbladder disease, application of our knowledge to the handling of this problem.

MARTIN E. REHFUSS, *Clinical Professor of Medicine, Jefferson Medical College.*

NOVEMBER 20

Bulkley Lecture: The curability of cancer of the tongue by modern therapeutic methods.

The basis for this study is a series of 322 consecutive cases of cancer of the tongue admitted to the Memorial Hospital between the years 1927 and 1931. These cases are analyzed from the standpoint of etiology, differential diagnosis, clinical course and prognosis. The five-year cure rate of this group in all stages of the disease was 26 per cent. This study endeavors to point out how the various treatment methods now available may be combined to the best interest of the patient with cancer of the tongue.

HAYES E. MARTIN, *Attending Surgeon, Memorial Hospital.*

DECEMBER 4

Acute inflammation of the gall-bladder and the biliary ducts.

There will be discussed the factors causing acute cholecystitis, both of the calculous and non-calculous type; the relation of acute and chronic inflammation; the role of infection both in cholecystitis and cholangitis; the symptomatology of the typical case and the variations which may make diagnosis difficult; the differential diagnosis from other abdominal lesions; the question which is still quite controversial as to when operation should be performed for acute cholecystitis; and the mortality and causes of death following operation on the gall-bladder and ducts.

JOHN DOUGLAS, *Attending Surgeon, St. Luke's Hospital.*

DECEMBER 11

Rational symptomatic drug therapy.

General indications for and methods used to evaluate results of symptomatic treatment. A discussion of the action, uses and possible dangers of some drugs recently introduced for the relief of symptoms.

ARTHUR C. DeGRAFF, *Samuel A. Brown Professor of Therapeutics, New York University College of Medicine.*

DECEMBER 18

Common gastro-intestinal diseases of infants and children.

The more common gastro-intestinal diseases of infants and children will be discussed. The causes and treatment of various types of vomiting such as pyloric spasm, stenosis and vomiting due to errors in feeding will be reviewed. The classification and treatment of infantile diarrhoea including the management of dehydration and acidosis which frequently complicate this condition will be presented.

ADOLPH G. DeSANCTIS, *Director of Pediatrics, New York Post-Graduate Medical School and Hospital.*

1937

JANUARY 8

Gonorrhea in the Male and its treatment.

A discussion of the salient points at play in the disease itself and a consideration of its treatment in the light of our recent therapeutic struggles.

P. S. PELOUZE, *Assistant Professor of Urology, University of Pennsylvania.*

JANUARY 15

Recent advances in the treatment of chronic arthritis.

A brief review of the present generally accepted ideas as to the classification of chronic arthritis will be presented with a brief discussion of the most important points in differential diagnoses. An attempt will be made to evaluate the various methods of treating arthritis and special reference will be given to the more modern methods of treating this disease.

R. GARFIELD SNYDER, *Chief of the Arthritis Clinic, Hospital for the Ruptured and Crippled.*

JANUARY 22

Recent advances in the endocrine field.

A discussion of recent advances in the study of internal secretions, with especial reference to their bearing on the interpretation of symptoms in the field of general medicine.

DAVID P. BARR, *Professor of Medicine, Washington University.*

JANUARY 29

Angina pectoris and coronary artery disease.

This lecture will consider the nervous and mental influences in angina pectoris; etiologic factors in coronary artery disease, with special consideration of the role of hypertension, diabetes and other metabolic disorders; mechanism of pain production; classification of cases; differential diagnosis both of angina pectoris and coronary artery occlusion; prognosis; life expectancy; treatment, including a consideration of more recent forms of treatment, such as paravertebral block, sympathectomy, thyroidectomy, undernutrition and surgical treatment.

B. S. OPPENHEIMER, *Physician to Mount Sinai Hospital.*

FEBRUARY 5

The treatment of chronic Bright's disease and uremia.

Theoretical and practical aspects of medicinal, dietary, and surgical treatment of chronic Bright's disease and uremia will be discussed.

IRVINE H. PAGE, *Associate Member of The Rockefeller Institute.*

FEBRUARY 19

The fundamental principles of fever therapy in the treatment of infectious disease, particularly gonococcal infections.

Gonococcal infections offer the clearest illustration of the use of fever therapy as a curative agent in infectious disease. The organism may be cultured from the patient and tested for its resistance to a temperature of 41.5° C. The patient can be given the same length of fever at this temperature as indicated by the test upon the patient's own culture (thermal death time) with a fair expectation of cure. The success or failure of the treatment can be demonstrated clinically and bacteriologically very quickly. An intensive study of this disease has made it possible to formulate some of the fundamental principles which are perhaps relevant to certain other diseases. There is some confirmatory evidence both experimentally and clinically that the same principles may be applied in late syphilis. The metabolic disturbances produced in the body of the patient as a result of the prolonged fever (up to 27 hours at 41.5° C.) resemble in many instances those occurring in spontaneous fevers.

STAFFORD L. WARREN, *Associate Professor of Medicine, The University of Rochester.*

FEBRUARY 26

Modern concepts of anemia from the clinical standpoint.

Experimental studies and the dynamic point of view—Minot's discovery of liver treatment as elucidating pernicious anemia—the correlation of studies of the peripheral blood and of hemolytopoietic tissue (especially with sternal biopsies) as permitting not only more insight into the nature of the diseases but also a more intelligent study of individual human cases. In regard to classification, the old primary and secondary arrangement is obsolete both because many of the primary diseases have shifted or disappeared, and the second was always a dump heap containing many different types. Some of these would be briefly considered. The use and limitations of the classification based on size of the erythrocyte will be touched upon.

EDWARD B. KRUMBHAAR, *Professor of Pathology, University of Pennsylvania School of Medicine.*

March 5

Deficiency disease, its physiology, diagnosis, and treatment.

The clinical and experimental evidence upon which our understanding of various disease states as deficiencies is based, the symptomatology, the diagnosis, and the treatment of these frequently occurring and poorly understood clinical conditions.

C. P. RHOADS, *Associate Member of the Hospital of The Rockefeller Institute for Medical Research.*

March 12

Neurology and Psychiatry—their common interests and some divergent trends.

Relationships. General survey and evaluation of the possibilities in neuropsychiatry—trends in both neurology and psychiatry and special points converging into so-called "neuropsychiatry."

NOLAN D. C. LEWIS, *Professor of Psychiatry, College of Physicians and Surgeons, Columbia University.*

March 19

Carcinoma of the lung.

A discussion of the pathological changes, signs and symptoms, diagnostic methods, and treatment.

WILLIAM F. RIENHOFF, JR., *Associate Professor of Surgery, Johns Hopkins University Medical School.*

April 2

The diagnosis and management of the commoner clinical allergies.

There will be a preliminary discussion of the various types of allergy. A correct diagnosis of the cause or causes is essential to proper treatment. An evaluation of the general and special procedures to accomplish such diagnoses will be given. Present methods of the general management and specific treatments for hay fever, asthma and angioneurotic edema will be considered in detail.

ROBERT A. COOKE, *Assistant Professor of Clinical Medicine, Cornell Medical College.*

APRIL 9

A study of four hundred cases of pulmonary tuberculosis.

Analyzed with respect to the type and extent of the lesions in the lung prior to treatment, the therapeutic measures employed, the clinical results obtained and the present status of the group after a minimum period of three years.

GEORGE FOSTER HERBEN, *Physician in Chief, Loomis Sanatorium.*

APRIL 16

Recent advances in physical therapy.

A discussion of hydro-gymnastics in the treatment of infantile paralysis; muscle re-education in spastic paralysis; pressure-suction treatment in peripheral circulatory disturbances; hyperpyrexia therapy; short-wave and ultra short-wave therapy; and auto-transfusion with ultra violet radiation.

K. G. HANSSON, *Director of Physical Therapy, Hospital for the Ruptured and Crippled.*

APRIL 23

The management of difficult labor.

EDWARD A. SCHUMANN, *Professor of Obstetrics, School of Medicine, University of Pennsylvania.*

CORRECTION

On page 505 of the August 1936 *Bulletin* an error was made in listing Dr. S. A. Knopf's book, *Heart disease and tuberculosis,* as privately printed. The book was published by the Livingston Press of the Pott's Memorial Hospital for the Rehabilitation of the Tuberculous.

REPORT OF COMMITTEE ON LECTURES TO THE LAITY

The Committee on Lectures to the Laity desires to present a report of its activities, with a brief history of its inception and development.

The New York Academy of Medicine has always taken an active interest in the diffusion of medical knowledge among the medical fraternity. Its meetings have increasingly been the centers for the exchange of professional experience and the announcement of new discoveries. Its library has been a beehive of intellectual activity by physicians. On the other hand, the Medical Information Bureau has developed a relationship with the general public through its newspaper and radio releases. Fellows of the Academy have gladly offered their knowledge and services for the dissemination of information about such phases of medicine as the public wishes and should know.

From this it was but natural that the Bureau should address itself to the public through lectures to the laity. The public has long heard about the cure of this or that disease, but it has rarely been told the authoritative facts on the history and romance of medicine. This subcommittee was organized to develop and put into practice this concept. After numerous meetings, it was agreed to hold a laity meeting once a month in the evening in Hosack Hall at the Academy, for eight months. Fellows of the Academy and distinguished physicians elsewhere were invited to deliver lectures. A cordial response was made and speakers of high merit were obtained.

The attendance has been large, so that standing room only could be obtained, and many had to be turned away. The audience, through the cooperation of the New York City Board of Education, has contained many school teachers. This has been of importance because of the inevitable spread of this knowledge to their pupils. Furthermore, publishers have been interested and the entire series of lectures will be published by D. Appleton-Century Co., Inc., in book form and in this way a much larger audience may be reached.

In this endeavor, it is fitting to acknowledge the gracious cooperation of the Board of Education of the City of New York, notably, Dr. Harold G. Campbell, Superintendent of Schools, Dr. Joseph Sheehan, Associate Superintendent and Dr. I. H. Goldberger. Also acknowledgment is to be made to the Academy's Committee on Medical Education, four of whose members, Doctors Shattuck, Tenney, Bancroft and Reynolds, served on this committee.

Our special thanks is due to Dr. Orrin Sage Wightman, whose contribution of $200.00 enabled us to initiate and promote the Lectures to the Laity promptly and effectively.

The committee submits this brief report of its activities with the recommendation that the Lectures to the Laity be continued and that a committee be reappointed for that end.

The committee wishes to express its deep appreciation of the splendid work performed in the development of the idea and in its consummation by our Executive Secretary, Dr. Iago Galdston.

(Signed) DR. WILLIAM CRAWFORD WHITE
Chairman, Subcommittee Lectures to the Laity on the Art and Romance of Medicine.

RECENT ACCESSIONS TO THE LIBRARY

("Possession does not imply approval")

Abbott, M. E. S. Atlas of congenital cardiac disease.
N. Y., American Heart Assoc., 1936, 62 p.

Andresen, V. & Häupl, K. Funktions-Kieferorthopädie.
Leipzig, Meusser, 1936, 116 p.

Aykroyd, W. R. Vitamins and other dietary essentials. 2. ed.
London, Heinemann, 1936, 226 p.

Baetzner, W. Sport- und Arbeitsschäden.
Leipzig, Thieme, 1936, 136 p.

Bailey, F. R. Text-book of histology. 9. ed.
Balt., Wood, 1936, 773 p.

Bolduan, C. F. and Bolduan, N. W. Public health and hygiene. 2. ed.
Phil., Saunders, 1936, 371 p.

British (The) encyclopaedia of medical practice, under the general editorship of Sir H. Rolleston.
London, Butterworth, 1936, vol. 1.

Brockbank, E. M. The foundation of provincial medical education in England, and of the Manchester school in particular.
[Manchester, Eng.], Manchester Univ. Press, 1936, 191 p.

Cattell, R. B. A guide to mental testing.
London, Univ. of London Press, 1936, 312 p.

Cemach, A. Luftwege, Mund und Ohr.
Wien, Maudrich, 1936, 132 p.

Hammond, T. E. Vitality and energy in relation to the constitution.
London, Lewis, 1936, 314 p.

von Hoesslin, H. Vorlesungen über Erkrankungen des Respirationssystems.
Leipzig, Thieme, 1935, 150 p.

Hopkins, G. H. E. Mosquitoes of the Ethiopian region.
London, British Museum, 1936, vol. 1.

Howell, W. H. A text-book of physiology. 13. ed.
Phil., Saunders, 1936, 1150 p.

von Jaschke, R. T. Lehrbuch der Geburtshilfe. 4. Aufl.
Berlin, Springer, 1935, 770 p.

Kahn, R. L. Tissue immunity.
Springfield, Ill., Thomas, [1936], 707 p.

Kemp, T. Prostitution, an investigation of its causes.
Copenhagen, Levin, 1936, 253 p.

Kovács, R. Physical therapy for nurses.
Phil., Lea, 1936, 286 p.

Lewis, M. M. Infant speech.
London, Paul, 1936, 335 p.

Lewis, (Sir) T. Vascular disorders of the limbs.
London, Macmillan, 1936, 111 p.

Licht, R. Die biotechnische Behandlung von Spaltbildungen und Defekten der Gaumenorgane.
München, Verlag des Reichsverbandes deutscher Dentisten, 1936, 112 p.

Linstead, H. N. Poisons la w.
London, Pharmaceutical Press, 1936, 444 p.

Lloyd, W. E. B. A hundred years of medicine.
London, Duckworth, [1936], 344 p.

McGehee, W. H. O. A text-book of dental pharmacology, materia dentica and pharmaco-therapeutics.
Phil., Blakiston, [1936], 489 p.

M'Gonigle, G. C. M. & Kirby, J. Poverty and public health.
London, Gollancz, 1936, 278 p.

McKillop, M. Food values. [4. ed.]
London, Routledge, 1936, 155 p.

Mercer, W. Orthopaedic surgery. 2. ed.
London, Arnold, [1936], 906 p.

Muir, (Sir) R. Text-book of pathology. 4. ed.
Balt., Wood, 1936, 994 p.

Nyström, E. G. Lectures on embolism and other surgical subjects.
Balt., Williams, 1936, 213 p.

Parsons, (Sir) J. H. Diseases of the eye. 8. ed.
London, Churchill, 1936, 705 p.

Pennell, V. C. A handbook of urology.
Cambridge [Eng.], Univ. Press, 1936, 224 p.

Reichel, F. P. Die Nachbehandlung nach Operationen. 3. Aufl.
München, Bergmann, 1936, 499 p.

Richtlinien für Schwangerschaftsunterbrechung und Unfruchtbarmachung aus gesundheitlichen Gründen. Hrsg. von der Reichsärztekammer.
München, Lehmann, 1936, 180 p.

Robson, G. C. & Richards, O. W. The variation of animals in nature.
London, Longmans, [1936], 425 p.

Sachs, W. The vegetative nervous system.
London, Cassell, 1936, 168 p.

Savory, T. H. Mechanistic biology and animal behaviour.
London, Watts, [1936], 182 p.

Schumann, E. A. A textbook of obstetrics.
Phil., Saunders, 1936, 780 p.

Shoenfeld, D. D. The crime and the criminal, a psychiatric study of the Lindbergh case.
N. Y., Covici, [1936], 411 p.

Skinner, E. W. The science of dental materials.
Phil., Saunders, 1936, 411 p.

Sloan, E. P. The thyroid; surgery, syndromes, treatment.
Springfield, Ill., Thomas, [1936], 475 p.

Sollmann, T. H. A manual of pharmacology. 5. ed.
Phil., Saunders, 1936, 1190 p.

Somogyi, J. Begabung im Lichte der Eugenik.
Leipzig, Deuticke, 1936, 518 p.

Stopes, M. C. C. Change of life in men and women.
London, Putnam, [1936], 282 p.

Thoma, K. H. Oral diagnosis and treatment planning.
Phil., Saunders, 1936, 379 p.

Uhlenbruck, P. Die Herzkrankheiten im Röntgenbild und Elektrokardiogramm.
Leipzig, Barth, 1936, 318 p.

Waaler, E. Studies on the dissociation of the dysentery bacilli.
Oslo, Dybwad, 1935, 176 p.

Zeller, W. Aufgaben und Methoden des Jugendarztes.
Leipzig, Barth, 1936, 172 p.

DEATHS OF FELLOWS OF THE ACADEMY

GREENWALD, MAX, M.D., 24 West 59 Street, New York City; graduated in medicine from the University of Maryland in 1907; elected a Fellow of the Academy November 3, 1927; died October 1, 1936.

Dr. Greenwald was attending physician to the Metropolitan and Beth David Hospitals.

He was a Fellow of the American Medical Association and a member of the County and State Medical Societies.

HOWLAND, DE RUYTER, M.D., Stratford, Connecticut; graduated in medicine from Columbia University, College of Physicians and Surgeons in 1906; elected a Fellow of the Academy January 7, 1915; died September 12, 1936.
Dr. Howland was also a Fellow of the American Medical Association.

MUNGER, CARL EUGENE, M.D., 85 Grove Street, Waterbury, Connecticut; graduated in medicine from the College of Physicians and Surgeons in 1883, elected a Fellow of the Academy October 6, 1892; died September 26, 1936.

Dr. Munger held a certificate of the American Board of Otolaryngology and was a member of the American Medical Association, the American Laryngological, Rhinological and Otological Society and the American College of Surgeons.

WILLIAMS, FRANKWOOD EARL, A.B., M.D., 44 West 12 Street, New York City; received the degree of Bachelor of Arts from the University of Wisconsin in 1907, and graduated in medicine from the University of Michigan in 1912; elected a Fellow of the Academy October 3, 1918; died September 24, 1936.

Dr. Williams was medical director of the Massachusetts Society for Mental Hygiene, 1915-1917; chairman of the Massachusetts Advisory Prison Board, 1916-1917; associate medical director of the National Committee for Mental Hygiene, 1917-1922 and its medical director from 1922-1931. He served as first assistant and chief of division of neurology and psychiatry in the office of the Surgeon General during the World War. He was a member of the faculty of the New School for Social Research for several years, and a lecturer in psychiatry at the Yale University School of Medicine from 1926-1929 and at the College of Physicians and Surgeons since 1930. The honorary degree of Doctor of Science was awarded Dr. Williams in 1927 by Colgate University.

He was a Fellow of the American Medical Association and a member of the American Psychoanalytic Association, American Psychiatric Association, New England Society of Psychiatry, American Psychopathological Association, American Orthopsychiatric Association and the County and State Medical Societies.

Dr. Williams was the editor of Mental Hygiene and the author of a number of books and articles on psychiatric subjects.